What is claimed is:

1.   A method of selecting input/output (I/O) devices to control power consumption of a computer system, the method comprising:

    determining a power consumption metric for each of a plurality of I/O devices

5   connected to the computer system;

    selecting at least one of the plurality of I/O devices based on the determined power consumption metric; and

    reducing power consumption of the at least one selected I/O device.

10   2.   The method of claim 1, wherein selecting at least one of the plurality of I/O devices comprises:

    identifying top power consuming I/O devices of the plurality of I/O devices based on the power consumption metric; and

    selecting at least one of the top power consuming I/O devices to reduce power

15   consumption.

3.   The method of claim 2, wherein identifying top power consuming I/O devices of the plurality of I/O devices comprises:

    estimating future power consumption for each of the plurality of I/O devices for a

20   period of time in the future; and

    selecting a group of the plurality of I/O devices having the highest estimated future power consumptions.

4.   The method of claim 2, further comprising:

identifying low-power I/O device alternatives to using the top power consuming I/O devices.

5   5.   The method of claim 4, wherein the low-power alternatives comprise at least one of placing a top power consuming I/O device in a low-power mode and disabling a top power consuming I/O device if an I/O device providing substantially the same functionality and consuming less power is available for use.

10   6.   The method of claim 4, wherein identifying low-power I/O device alternatives comprises:

using a usage model to determine whether any low-power I/O device alternatives to using the top power consuming I/O devices are available, the usage model including a historical analysis of usage for the plurality of I/O devices.

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7.   The method of claim 6, wherein the usage model identifies user acceptance of the low-power I/O device alternatives.

8.   The method of claim 4, further comprising:

20   determining power savings for each of the low-power I/O device alternatives.

9.   The method of claim 8, wherein determining power savings comprises:

estimating a first future power consumption for a top power consuming I/O device

operating in a normal mode;

estimating a second future power consumption for a respective low-power I/O

5   device alternative; and

determining a difference between the first and second future power consumptions.

10.   The method of claim 8, wherein selecting at least one of the plurality of I/O

devices based on the determined power consumption metric comprises:

10   selecting at least one of the top power consuming devices based on user

acceptance and power savings of a low-power I/O device alternative to the at least one top

power consuming I/O device.

11.   The method of claim 10, wherein selecting at least one of the top power

15   consuming devices comprises:

selecting a plurality of the low-power I/O device alternatives associated with the

top power consuming I/O devices;

ranking the plurality of low-power I/O device alternatives based user acceptance

and power savings for each of the plurality of low-power I/O device alternatives; and

20   selecting at least one of the plurality of low-power I/O device alternatives based on

the ranking.

12. The method of claim 1, wherein selecting at least one of the plurality of I/O devices comprises selecting at least one of the plurality of I/O devices based on the determined power consumption metric and based on a usage metric for each of the plurality of I/O devices.

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13. The method of claim 12, wherein the power consumption metric comprises at least one of estimated power consumption of the plurality of I/O devices, estimated future power consumption of the plurality of I/O devices, an aggregate of the power consumption of each of the I/O devices, power consumption of the computer system, estimated future

10 power consumption of the computer system, and a power savings for each of the I/O devices if a respective I/O device were placed in a low-power mode.

14. The method of claim 12, wherein the usage metric comprises a metric associated with user acceptance of placing an I/O device of the plurality of I/O devices in a low-

15 power mode.

15. The method of claim 1, wherein the power metric comprises an estimated future power consumption and the step of selecting comprises:

determining recent use of each of the plurality of I/O devices;

20 estimating future power consumption based on the recent use for each of the plurality of I/O devices; and

selecting at least one of the plurality of I/O devices based on the estimated future power consumption.

16.   The method of claim 1, further comprising:

identifying a setting associated with one of the plurality of devices, wherein the

setting specifies a constraint on reducing power consumption for the one of the plurality of

I/O devices; and

5   the step of reducing power consumption comprises reducing power consumption

of the one of the plurality of I/O devices if the constraint specified in the setting can be

maintained.

17.   The method of claim 16, wherein the setting comprises a setting specified by a

10   user.

18.   The method of claim 1, further comprising:

profiling usage of each of the plurality of I/O devices;

generating a usage model from the profiling; and

15   the step of selecting comprises selecting at least one of the plurality of I/O devices

based on the usage model.

19.   The method of claim 18, wherein profiling usage comprises:

analyzing recent usage behavior of at least one of the plurality of I/O devices for a

20   given user.

20.   The method of claim 18, wherein profiling usage comprises:

analyzing past usage behavior of at least one of the plurality of devices for a plurality of users.

21. The method of claim 1, further comprising:

profiling power consumption of each of the I/O devices;

generating a power model from the profiling; and

the step of selecting comprises selecting at least one of the plurality of I/O devices based on the power model.

22. The method of claim 1, wherein the power consumption metric comprises at least one of estimated power consumption of the plurality of I/O devices, estimated future power consumption of the plurality of I/O devices, an aggregate of the power consumption of each of the I/O devices, power consumption of the computer system, estimated future power consumption of the computer system, and a power savings for each of the I/O devices if a respective I/O device were placed in a low-power mode.

23. A method of controlling power consumption of I/O devices for a computer system, the method comprising:

profiling usage patterns of the I/O devices to establish a usage model;

identifying low-power alternatives to using at least one of the I/O devices using the usage model;

profiling power consumption of the I/O devices to establish a power model;

selecting at least one of the low-power alternatives to reduce power consumption of the computer system based on the power model.

24. The method of claim 23, wherein the low-power alternatives comprise at least one of placing an I/O device in a low-power mode and disabling an I/O device if another I/O device providing substantially the same functionality and consuming less power can be used.

25. The method of claim 23, further comprising:

determining whether a power consumption of the computer system or an estimated future power consumption of the computer system exceeds a threshold; and

performing the step of identifying low-power alternatives and the step of selecting at least one of the low-power alternatives in response to the threshold being exceeded.

26. An apparatus comprising:

means for identifying a plurality of low-power alternative means to using an I/O device connected to the computer system using a usage model; and

means for selecting at least one of the low-power alternatives means to reduce power consumption of the computer system using a power model.

27. The apparatus of claim 26, wherein the low-power alternative means comprises means for providing substantially the same functionality of the I/O device at reduced power consumption.

28.   The apparatus of claim 26, further comprising:

means for determining whether a power consumption of the computer system or an estimated future power consumption of the computer system exceeds a threshold; and

means for activating the means for selecting a plurality of low-power alternative means and the means for selecting at least one of the low-power alternatives means in response to the threshold being exceeded.

29.   Computer software embedded on a computer readable medium, the computer software comprising instructions of:

determining a power consumption metric for each of a plurality of I/O devices connected to a computer system;

selecting at least one of the plurality of I/O devices based on the determined power consumption metric; and

reducing power consumption of the at least one selected I/O device.

30.   The computer software of claim 29, wherein the instruction of selecting at least one of the plurality of I/O devices comprises instructions of:

identifying top power consuming I/O devices of the plurality of I/O devices based on the power consumption metric; and

selecting at least one of the top power consuming I/O devices to reduce power consumption.

31.   The computer software of claim 30, further comprising an instruction of:

determining whether any low-power I/O device alternatives to using the top power

consuming I/O devices are available.

5   32.   The computer software of claim 31, further comprising an instruction of:

determining power savings for each of the low-power I/O device alternatives.

33.   The computer software of claim 32, wherein the instruction of selecting at least

one of the plurality of I/O devices comprises an instruction of:

10   selecting at least one of the top power consuming devices based on user

acceptance and power savings of a low-power I/O device alternative to the at least one top

power consuming I/O device.

34.   A computer system comprising:

15   a processor; and

a battery, wherein the processor is operable to determine a power consumption

metric for each of a plurality of I/O devices connected to the computer system, select at

least one of the plurality of I/O devices based on the determined power consumption

metric, and control the at least one selected I/O device to reduce power consumption in

20   response to remaining battery life falling below a threshold.